

SHAFRANOVSKIY, A.K., kand.tekhn.nauk; VINOGRADOV, Yu.G., inzh.

Use of the X-ray method for investigating the performance of
the ballast covering. Vest.TSNII MPS 19 no.4:44-47 '60.
(MIRA 13:7)

(Ballast(Railroads)--Testing)
(X rays--Industrial applications)

SHAFRANOVSKIY, A.K., kand.tekhn.nauk; SHCHERBAKOVA, A.P., inzh.

Technical and economic effectiveness of track tamping and alignment
machinery, taking performance quality into consideration. Vest. TSNII
MPS 19 no.8:43-46 '60. (MIRA 13:12)
(Railroads--Equipment and supplies)

SHAFRANOVSKIY, A.K., kand.tekhn.nauk

Studying the efficiency of various methods of ballast foundation
tamping under operating conditions. Trudy TSNII MPS no.217:71-98
'61. (MIRA 15:1)

(Ballast (Railroads))

SHAKHMYANTS, Georgiy Mikhaylovich, doktor tekhn. nauk; AMELIN, S.V., prof., retsenzent; KONSTANTINOV, V.N., dots., retsenzent; SMIRNOV, M.P., retsenzent; YAKOVLEV, V.F., retsenzent; BOCHENKOV, M.S., kand.tekhn. nauk, retsenzent; BROMBERG, Ye.M., retsenzent; YERSHKOV, O.P., retsenzent; ZVEREV, B.N., retsenzent; ZOLOTARSKIY, A.F., retsenzent; IVASHCHENKO, G.I., retsenzent; LINEV, S.A., retsenzent; MARKAR'YAN, M.A., retsenzent; POPOV, V.V., retsenzent; POPOV, S.N., retsenzent; SEREBRENNIKOV, V.V., retsenzent; SHAFRANOVSKIY, A.K., retsenzent; NOVITSKIY, G.I., inzh., retsenzent; VIKTOROV, I.I., kand.tekhn.nauk, retsenzent; VYSOTSKIY, A.F., kand.tekhn.nauk, retsenzent; SAATCHYAN, G.G., kand.tekhn.nauk, retsenzent; YAKOVLEVA, Ye.A., kand.tekhn.nauk, retsenzent; TITOV, V.P., kand.tekhn.nauk, retsenzent; GRUSHEVOY, N.G., inzh., red.; BROMBERG, Ye.M., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn. red.

[Railroad tracks] Zheleznodorozhnyi put'. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 615 p.
(MIRA 14:12)

1. Kafedra "Zheleznodorozhnyy put'" Leningradskogo instituta inzhenerov zheleznodorozhnogo transporta (for Amelin, Konstantinov, Smirnov, Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (for Bochenkov, Bromberg, Yershkov, Zverev, Zolotarskiy, Ivashchenko, Linev, Markar'yan, Popov, V.V., Popov, S.N., Serebrennikov, Shafranovskiy, Novitskiy). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva (for Viktorov, Vysotskiy, Saatchyan, Yakovleva, Titov)
(Railroads—Track) (Railroad engineering)

SHAFRANOVSKIY, A.K., kand.tekhn.nauk; VINOGRADOV, Yu.G., inzh.

Using the photometric analysis of X-ray pictures for determining
ballast compaction. Trudy TSNII MPS no.217:48-55 '61.

(MIRA 15:1)

(Ballast (Railroads)--Testing) (Radiography)

SHAFRANOVSKIY, A.K., kand.tekhn.nauk

Track alignment during the final stage of the ballast cross section
stabilization. Trudy TSNII MPS no.217:99-106 '61. (MIRA 15:1)
(Railroads--Track)

SHAFRANOVSKIY, A.K., kand.tekhn.nauk

Track lining by means of shock absorbing plates and pads.
Put' i put.khoz.5 no.2:25 F '61. (MIRA 14:3)
(Railroads--Track)

SHAFRANOVSKIY, A.K., kand. tekhn. nauk

Results of the experimental determining of the points of
rail and wheel contact. Trudy TSNII MPS no. 264:99-145 '63.
(MIRA 17:2)

SHAFRANOVSKIY, A.K.; PETROVA, V.L., red.

[Continuous recording of the vertical and side forces exerted in the interaction of wheel and rail.] Nepreryvnaia registratsiia vertikal'nykh i bokovykh sil vzaimodeistviia koleasa i rel'sa. (Moskva. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no.308). 1965.

(MIRA 19:1)

The radioactive phosphopite from the Kira-Kira region in Eastern Transbaikalia. J. Shafiranovich. Trans. Geol. Prospecting Service U.S.S.R., No. 765-9 (1931). Neues Jahrb. Mineral. Geol., Referate II, pp. 470-1 (1933); cf. C. A. 28, 5748^a.—A chem. analysis of phosphopite and complete phys. properties are given. The radioactivity is due to the presence of a small quantity of thorium. J. F. Schairer

J. F. Schairer

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

CP

1ST AND 2ND ORDERS PROPERTIES AND PROPERTIES WITH

Zircon from Vishnyovye mountains. I. Shafraunskii.
Mém. soc. russe mineral. 62, 218-56(1933): *Nouvel Jahrb.*
Mineral. Geol., *Referate I*, 1935, 48.—Crystallographic.
J. F. Schairer

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS PROPERTIES AND PROPERTIES WITH

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 1ST AND 2ND GROUPS
 PROCESSES AND PROPERTIES INDEX
 8
 Vesuvianite from the Achmatovsk mine (Urals). E. F. Chirva and I. I. Shafranovskii. *Ann. Leningrad State Univ., Ser. Geol.* 2, 18-32 (1930); *Mineralog. Abstracts* 7, 461. - Green to brown crystals of vesuvianite, with a c = 1 0.537284 in those from chlorite schist and = 1 0.537284 in those from garnet-vesuvianite rock or granular limestone, are described.
 C. A. Silberrad
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 1ST AND 2ND GROUPS
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 C. A. Silberrad
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 1ST AND 2ND GROUPS
 PROCESSES AND PROPERTIES INDEX
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 Vesuvianite from the Achmatovsk mine (Urals). E. F. Chirva and I. I. Shafranovskii. *Ann. Leningrad State Univ., Ser. Geol.* 2, 18-32 (1930); *Mineralog. Abstracts* 7, 461. - Green to brown crystals of vesuvianite, with a c = 1 0.537284 in those from chlorite schist and = 1 0.537284 in those from garnet-vesuvianite rock or granular limestone, are described.
 C. A. Silberrad

A study of hornblende of the pegmatites in the Khibiny
 tundra. I. I. Shabanovskii. *Dokl. Akad. Nauk SSSR*
 1967, *Official Bull.* No. 10, p. 58; in English 58-
 9 (1967).— Optical, crystallographic and analytical data
 on amphiboles from pegmatites of 10 different sources are
 given. Oriented thin sections were used in the study of
 the specimens. The empirical formula for the samples
 analyzed is: $(\text{NaK})_{1.1}\text{Fe}_{0.9}\text{Ca}_{0.1}\text{Mg}_{0.1}\text{Mn}_{0.1}\text{Al}_{0.1}\text{Fe}_{0.1}\text{Si}_{0.1}\text{Ti}_{0.1}\text{O}_{10}$. The (Si, Ti)O₂:R²⁺:O:R³⁺:O ratios show
 that these hornblendes approach the compn. of arfvedson-
 ite and burkevikite, even though the observed Fe^{2+} are lower
 than those recorded for arfvedsonite. J. S. Joffe.

ASB 55.4 METALLURGICAL LITERATURE CLASSIFICATION

PROCEDURES AND PROPERTIES INDEX																									
The angular distribution in crystals. I. I. Shalmanovs. <i>Compt. rend. acad. sci. U. R. S. S.</i> 14, 377 (1967) (in French). A math. consideration of hydrodynamics and crystallography shows that the max. angle of 61° 41' in the lattice of trigonal, tetragonal or hexagonal crystals corresponds exactly to the angle of approach of the molec., considered as spheres, in the initial step of crystal formation. R. F. DeRight																									
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The development of the crystal faces of silicon in relation to its structure. I. I. Shadrinovskii. *Mém. soc. russ. minéral.* 66, No. 3, 27-64 (1937); *Chem. Zvest.* 1938, 1, 15. — From studies of the formation of silicon and the frequency of occurrence of the various forms it is concluded that the 3 most important faces with the greatest lattice d. are the (111), the (100) and the (110). Almost all other forms are the result of truncation of the edges of these important faces. M. G. Moore

ASTM-ILB METALLURGICAL LITERATURE CLASSIFICATION

1. GROUP 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

8

CF

PROCESSES AND PROPERTIES INDEX

Intergrowth of pyrochlore and zircon of the Il'men mountains. I. L. Shafanovskii. *Mém. sci. géol. minéral.* 07. 229 35 (1958). *Chem. Refers. Zhur.* 1959, No. 6, 21 2. Fifteen mutually intergrowing crystals of zircon and pyrochlore from Uskov Klyuch (Il'men mountains) were investigated. In 6 cases the face of the octahedral crystals of pyrochlore, coming in contact with the face of the tetragonal dipyrmaid of zircon, grew together in a position in which the faces $\{110\}$ of zircon and $\{112\}$ of pyrochlore coincided. A comparison of the structures of both crystals showed that the distances between similar atoms along these edges in both minerals were similar and the difference was equal to 0.84 Å. along $\{110\}$ of zircon and to 12.74 Å. along $\{112\}$ (the edge between the $\{111\}$ and $\{110\}$ faces) of pyrochlore. In a direction perpendicular to this edge the difference of the distances of the two crystals was 8.80 Å. ≈ 7.34 Å. ≈ 1.52 Å., i. e., 17%. The regularity of other intergrowths has not been determined. The article gives gonostereographic projection of the intergrowth and a scheme of coinciding flat lattices, but gives no illustrations of the crystals.

W. R. Hume

ASM 55.4 METALLURGICAL LITERATURE CLASSIFICATION

Crystallographic investigation of artificial mullite. D. P. Grigor'ev and I. I. Shadrinovskii. *Compt. rend. acad. sci. U. R. S. S.* 23, 933-4 (1939) (in English).—A specimen of mullite obtained by the method of Ginsberg (cf. C. A. 32, 8710⁹) was subjected to goniometric and optical crystal analysis. $n_x = 1.657$, $n_y = 1.644$; the small deviations from the results of Bowen and Greig (cf. C. A. 18, 2587) are probably due to the presence of impurities. A goniometric study gave the following values for the angles: $(111)(110) = 90^\circ 42'$; $(2)(110)(110) = 80^\circ 08'$, as compared with $90^\circ 47'$ and $80^\circ 11'$ found by Bowen and Greig. 3 references. A. H. Krapp

1ST AND 2ND CIPHERS																										3RD AND 4TH CIPHERS																									
PROCESSES AND PROPERTIES INDEX																										COMMON MATERIALS INDEX																									
<i>ca</i> Diamonds from the new diamond-bearing region of the middle Ural region. A. A. Averkin and I. I. Shafranovskii. <i>Mém. soc. russe minéral.</i> 68, 357-62 (1937). <i>Chem. Zentr.</i> 1940, II, 2286 7. —The geology of the deposits was studied. The diamonds are found in the alluvium of the older terraces and in alluvial-deluvial deposits as rhombic dodecahedrons with somewhat rounded edges. M. G. Moore																																																			
ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION																										COMMON MATERIALS INDEX																									
1ST AND 2ND CIPHERS																										3RD AND 4TH CIPHERS																									

The crystallography of diamonds of the Brazilian type
 I. I. Shadransky, *Compt. rend. Acad. Sci. U. R. S. S.*
 26, 562 (1940) (in German). Measurements of 10
 rounded rhombic dodecahedral crystals with "double
 surfaces" of Brazilian diamonds yielded figures tabulated
 showing that the crystals in question are the product of
 the presence, on the surface, of a large number of tetra-
 hedral and hexahedral faces.
 A. H. Krapp

ASAC SLA METALLOGRAPHIC LITERATURE CLASSIFICATION

SHAFRANOVSKIY, I. I.

Science

(E. S. Fedorov, the great Russian crystallograph) Moskva, 1945.

Monthly List of Russian Accessions. Library of Congress, July 1952. UNCLASSIFIED

CA

PROCESSES AND PROPERTIES INDEX

Work of V. I. Vernadskii in crystallography. I. I.
Photograph. Min. sec. from material. (S) 75, No. 1,
S-4(1960) - Biographical. M. H.

2

ADD-SLA METALLURGICAL LITERATURE CLASSIFICATION

COMMON SYMBOLS

RELATIONS

COMMON SYMBOLS

RELATIONS

SHAFRANOVSKIY, I. I.

POPOV, G.M.; SHAFRANOVSKIY, I.I.

[Crystallography] Kristallografiia. Izd. 2., ispr. i dop. Moskva.
Gos. izd-vo geologicheskoi lit-ry Ministerstva geologii SSSR, 1947.
262 p. (MIRA 7:8)

(Crystallography)

SHAFRANOVSKIY, I.I.

"Most Important Faces of Cubic, Tetragonal, Trigonal, and Hexagonal Crystals,"
Dok. AN, 58, No. 2, 1947

SHAFRANOVSKIY, I. I.

USSR/Quartz

Apr 1947

Mineral deposits

"Epitaxial Overgrowth of Quartz on Feldspar," D. P. Grigoriev, I. I. Shafranovskiy,
8 pp

"Zap Vse Min Ob" Vol LXXV, No 4

Studies of intergrowths of quartz and feldspar from the Schetochaya Yama in
Transbaikalia.

PA 15T95

SHAFRANOVSKIY, I.I.

[Crystallography of rounded diamonds] Kristallografiia okruglykh
almazov. Leningrad, Izd-vo Leningradskogo gos. univ., 1948.

128 p.

(MLRA 9:10)

(Diamonds)

(Crystallography)

SHAFRANOVSKY, I. I., PROF

PA L/L9T71

USSR/Physics
Crystallography
Crystal Structures

Jan 48

"The External Form of Crystals as an Indication of
Their Internal Structure," Prof I. I. Shafranovsky,
Docent V. A. Frank-Kamenetskiy, 33 pp

"Vest Leningrad U" No 1

Theoretical survey of subject: (1) introduction;
(2) history of the problem; (3) space lattice,
symmetry and external form of crystals; (4) page
missing; (5) real structure and form of crystals;
(6) conclusion.

4/49T71

SHAFRANOVSKIY, I. I.

USSR/Minerals

1948

Zinc Ore Deposits
Sphalerite

"The Coincidence of Theoretical and Genetic Types of Zincblende," V. I. Mikheyev,
I. I. Shafranovskiy, Active Members, Acad Sci USSR, 5 pp **

"Zapiski v-s Mineral Obshch" No 4

Describes various factors affecting formation of a crystal. Refers to work by Adam, Belov, and Ozerov. Applies theoretical data to explain formation of zincblende crystals. Proves it is insufficient to compare theoretically computed characteristics for crystal grains and various statistical data. It is also necessary to consider crystal's chemical make-up, and surrounding media.

PA 29/49T79

** Probably refers to active membership in the AU Mineralogical Society, AS USSR, since Subject is not an Active Mbr., AS USSR. SMCS/jk

CA

Experiments on the regeneration of ground faces of
crystals. M. N. Balasheva and I. I. Shafanovskii.
Zapiski Vsesoyuz. Mineral. Obshchestva (Min. Soc. USSR
mineral) 77, 07-10 (1948). W. Kietel

Theoretical and genetic crystal types of apatite.

V. I. Mikhreeva and L. I. Shafirovskii. *Zapiski Vuzovsk. Mineral. Obshchestva* (Mém. Soc. russe minéral.) 77, 207-71 (1948). The crystal habit is detd. not only by the geometrical factors of the structure, but also by phys.-chem. conditions. For the geometric factors, Bravais' law postulates a distinct equil. habit, which, however, is modified by exterior forces. A statistical method of studying such factors is that of Wells (C.I. 41, 2955r). The tetrahedral type is more frequently observed in Zn-Pb ores of a high geo. age, the dodecahedral in Zn-Pb

ore deposits of younger age, and metasomatic origin, with siderite, fluorite, and barite. These different types express the different ionic characters of (111) and (100) in the apatite structure, which is affected by the external forces during the ore genesis. In the first case, the habit is chiefly detd. by the Si^{4+} ions in the solid; in the second type the geometric factors prevail. Another important mineral which indicates such effects on its habit is *corundum*. The chemistry of the surrounding medium is different in SiO_2 -rich media, which bring about the tabular (1001) habit, and in low-siliceous media, with barrel-shaped or elongated pyramidal habits (Ozerov, C.I. 40, 4317r). In the first type, the growth in the z direction is impeded by Si^{4+} ions absorbed from the medium on the tabular faces. W. L. L. L.

SHAFRANOVSKIY, I.I.

Structural varieties of simple crystal forms. Uch.zap. LGU no.93:
3-17 '48. (MIRA 10:10)
(Crystals)

CA

A. V. Shobnikov and I. I. Shatravsky, Moscow: Pub.
(Acad. Sci. U.S.S.R. 1949. 630 pp. Reviewed in *Min-
eralog. Abstracts* 11, 363 (1951).

30750. SHAFRANOVSKIY, I. I. AND MIKHEYEV, V. I.

Rentgenometricheskiy sposob opredeleniya morfologicheskikh vazhnykh graney
kristallov. Zapiski Vsesoyuz. mineral. o-va. 2-ya seriya, 1949, vyp. 3, s. 166-71.

CA

Crystallography of the copper group minerals. I. I. Shafranovskii and K. M. Malkova. *Zapiski Vsesoyuznogo Nauchno-Issledovskogo Instituta Khimicheskoi Mekhaniki* (Mém. soc. russe mineral.) 79, 201-7 (1934).
On the basis of Fedorov's classical crystallochem. method (C. 1, 12, 8) a statistical evaluation of the observed crystal forms of the naturally occurring elements Cu, Ag, Au is undertaken. The theoretical sequence for the simply face-centered cubic lattice is strictly obeyed for {111}, {010}, {011}, and {110}, but there is an anomaly for the less densely packed planes of {001} which have an unexpectedly high frequency. Planes of the zone [100] are more frequent than the important faces {110} and {111}. An attempt is made to explain these anomalous {001} frequencies by chem. corrosion phenomena ("soln. cones") which are similarly observed in quartz, topaz, etc. A structural explanation for these corrosion planes is not yet possible.
W. Fritzel

SHAFRANOVSKIY, I.I.

Conical surfaces in mineral crystals. Min.sbor. no.5:51-64
'51. (MLRA 9:12)

1.Ordena Lenina i ordena Trudovogo Krasnogo Znameni Gornyy
institut, Leningrad.
(Mineralogy)

SHAFRANOVSKIY, I. I.

USSR/Physics - Diamonds, Structure of

Aug 51

"New Data on the Crystallography of the Diamond,"
I. I. Shafranovskiy

"Priroda" No 8, pp 16-22

Peculiarities of cryst structure of diamonds, so important in industry, were studied by Acad A. Ye. Fersman and others. Particular attention was paid to round faceted rhombo-dodecahedron pattern, which is assumed to originate from partial diffusion of crystals.

221T91

SHAFRANOVSKIY, I. I.

PA 243T79

USSR/Geophysics - Crystallography, History Oct 52

"From the History of Russian Crystallography: Publicizing of Ye. S. Fedorov's Scientific Works," I. I. Shafranovskiy and G. B. Bokiy, Chair of Crystallography and Crystallochemistry

"Vest Moskov U, Ser Fiz-Mat i Yest Nauk" No 7, pp 129-147

Continuation of authors' works on history of Russian crystallography. Purpose of article is to publicize Ye. S. Fedorov's works in commemoration of the 100th anniversary of his birth.

243T79

SHAFRANOVSKIY, I. I. MIKHEYEV, V. I., MOKIYVSKIY, V. A.

Crystallography

Existence of eichwaldite inside of
eremeevite. Zap. Vses. min. ob. Sl no. 1:
28-40 '52

Monthly List of Russian Accessions, Library of
Congress, July 1952. Unclassified

SEAFRANOVSKIY, I. I.; BOKIY, G. B.

Fedorov, Evgraf Stepanovich; 1853-1919

Some forgotten articles of E.S. Fedorov. Zap. Vses. min ob. 81, No. 3, 1952

Monthly List of Russian Accessions, Library of
Congress, December 1952. _____ Unclassified.

SHAFRANOVSKIY, I.I.

[Diamonds] Almaz. Moskva, Izd-vo Akademii nauk SSSR, 1953. 152 p.

(MLA 6:10)

(Diamonds, Industrial)

FEDOROV, Evgraf Stepanovich, 1853-1919; ANSHELES, O.M., professor, redaktor;
SHAFRANOVSKIY, I.I., professor, redaktor; FRANK-KAMENETSKIY, V.A., starshiy
nauchnyy sotrudnik, redaktor.

[Principles of the theory of figures] Nachala uchenia o figurakh. Red.i
primechania O.M.Anshelesa, I.I.Shafranovskogo i V.A.Frank-Kamenetskogo.
[Leningrad] Izd-vo Akademii nauk SSSR, 1953. 409 p. (MLRA 6:12)
(Geometry)

SHAFRANOVSKIY, I. I. and RASKIN, N. M.

"The Forgotten Russian Mineralogist, Fedor Petrovich Moiseyenko (1754-1781,) Mineralog. sb. L'vovsk. geol. o-va, No 7, 333-343, 1953

The authors report brief biographical information on a scientist of the 18th Century, F. P. Moiseyenko, one of the first Russian mineralogists. They give a survey and evaluation of his scientific works.

RZhGeol, No 1, 1955

SHAFRANOVSKIY, I. I.

②
1097. Crystallography of boules of artificial ~~poly~~ polymer—N. N. MAROTIKIN and I. I. SHAFRANOVSKIY (Zap. Vses. Akad. Obshch., Pt. 82, No. 1, 60, 1953)

SHAFRANOVSKIY, I.I., deystvitel'nyy chlen; MIKHEYEV, V.I., deystvitel'nyy chlen;
GRIGOR'YEV, D.P., deystvitel'nyy chlen.

Work of A.N. Zavaritskii in crystallography. Zap.Vses.min.ob-va 82 no.2:
105-108 '53. (MLRA 6:6)
(Crystallography)

SHAFRANOVSKIY, I.I.

Evgraf Stepanovich Fedorov (100th anniversary of his birth).

Zap.Vses.min.ob-va 82 no.4:241-246 '53.

(MLBA 7:1)

1. Deystvitel'nyy chlen Vsesoyuznogo Mineralogicheskogo obshchestva.

(Fedorov, Evgraf Stepanovich, 1853-1919)

SHAFRANOVSKIY, I. I.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Bokiy, G. B. Shafranovskiy, I. I.	Works on the Scientific achievements, life, and public activities of Ye. S. Fedorov	Moscow State University imeni M. V. Lomonosov

SO: W-30604, 7 July 1954

SHAFRANOVSKIY, I.I.

External symmetry of real crystals and the symmetry of the originating medium. Zap.Vses.min.ob-va 83 no.3:198-211 '54. (MLRA 7:11)
(Crystallography)

POPOV, Georgiy Mikhaylovich; SHAFRANOVSKIY, Illarion Illarionovich;
FLINT, Ye. Ye., redaktor; SEMENOVA, M. V., redaktor; GUROVA, O. A.,
tekhnicheskiiy redaktor

[Crystallography] Kristallografiia. Izd. 3-e, ispr. i dop.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geologii i okhrane
nedr, 1955. 294 p. (MIRA 9:2)

(Crystallography)

FERSMAN, Aleksandr Yevgen'yevich, 1883-1945; BELYANKIN, D.S., akademik,
redaktor [deceased]; SHAFRANOVSKIY, I.I., prof., redaktor; STULOV, N.N.
redaktor; SMIRNOVA, A.V., tekhnicheskiy redaktor

[Crystallography of diamonds] Kristallografiia almaza. Red.i kommentari
tarii D.S.Beliankina i I.Shafranovskogo. [Moskva] Izd-vo Akademii nauk
SSSR, 1955. 566 p. (MLRA 9:1)

(Diamonds)

SHAFRANOVSKIY, I. I.

Category : USSR/Solid State Physics - Solid State Theory. Geometric
Crystallography

E-2

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3679

Author : Mikheyev, V.I., Shafrancvskiy, I.I.

Title : Crystallographic Laws Discovered and Formulated by Ye.S. Fedorov

Orig Pub : Kristallografiya, 1955, 3. 97-112

Abstract : See Ref. Zh. Geologiya, 1956, 519

Card : 1/1

FRANK-KAMENETSKIY, V.A.; SHAFRANOVSKIY, I.I.

The beginning of E.S.Fedorov's creative work. Kristallografiia no.3:
113-123 '55. (MLBA 10:2)

(Fedorov, Evgraf Stepanovich, 1853-1919)

SHAFRANOVSKIY, I.I.

E.S.Fedorov's textbooks on crystallography. Kristallografiia no.3:
125-137 '55. (MLA 10:2)

(Fedorov, Evgraf Stepanovich, 1853-1919)
(Crystallography--Textbooks)

SHAFRANOVSKIY, I. I.

17
✓ Cone-like surfaces of beryl. I. I. Shafraunovich. *Kristallografiya* 4, 69-74 (1958); *Russk. Zhur. Khim.*, 1956, Abstr. No. 6270. Well-defined cone-like surfaces having traces of partial dissolving are found goniometrically on the beryl crystal surface. Development of the cones occurs mainly around the double axis of symmetry, also on the hexahedral axis. The goniometric measurements are given. The forms coincide more or less with a small circle describe around the pole (1120) with a radius equal to $45 \pm 2^\circ$, also $33-4^\circ$. It is presumed that the angle of inclination of the cone-like surfaces toward the axis (1120) and (0001) is different at different stages of dissolving. It is noted that the cone-like formations on the beryl crystal surface. Illustration of the supposition that the development of cone surfaces occurs not only along crystallographic planes, but also in small circles.

N. Vasiliev

MOKIYEVSKIY, V.A.; SHAFRANOVSKIY, I.I.

Photogoniometry of round diamonds. Kristallografiia no.4:
75-79 '55.

(MLRA 10:5)

(Diamond crystals) (Goniometry)

E-8

Shafraunovskiy, I. I.

USSR/Solid State Physics - Morphology of Crystals.
Crystallization.

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11806

Author : Mikheyev, V.I., Shafraunovskiy, I.I.

Inst : -

Title :

Ribbed Crystal Forms. Frist Report, Simple Ribbed Forms
of Lower Syngonies.

Orig Pub : Mineralog. st. L'vovsk. geol. O-va pri un-te, 1955, No 9,
15-24

Abstract : It is noted that like faces (to which the classical study
of crystal forms is confined), the ribs, being elements
of the facing of the crystal, obey symmetry laws. Conse-
quently, with the aid of the symmetry elements of the
crystals it is possible to deduce the aggregates of equal
edges (similar to the deduction of aggregates of equal fa-
ces in the derivation of usual simple forms). The concept
of a simple ribbed form is introduced as an aggregate of

Card 1/2

PPROVED FOR RELEASE

USSR/Solid State Physics - Morphology of Crystals.
Crystallization.

3-8

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11806

edges of a crystal, derivable from a one specified edge by means of symmetry elements. Simple edge forms are deduced, belonging to crystals of the lower syngonies. 18 simple edge forms are obtained, are represented by a graph, and are tabulated.

Card 2/2

SHAFRANOVSKIY, I. I., sostavitel'; RASKIN, N. M., sostavitel'; KNYAZEV, G. A.,
redaktor; LAZARENKO, Ye. K., redaktor; BSHMAN, Yu. A., redaktor izdatel'-
stva; PEVZNER, R. S., tekhnicheskii redaktor

F. P. Moiseenko's works in the archives of the Academy of Sciences of
the U. S. S. R.; description of scientific works, personal and official
documents, texts of mineralogical works. Trudy Arkhiva AN SSSR no. 12:
3-103 '55. (MLRA 8:11)

(Moiseenko, Fedor Petrovich, 1754-1781)

SHA FRANOVSKIY, I. I.

USSR/ Scientists - Crystallography

Card 1/1 Pub. 86 - 10/36

Authors : Shafranovskiy, I. I., Prof.

Title : ~~Shafanovskiy, I. I.~~
The founder of modern crystallography

Periodical : Priroda 44/6, 73 - 79, Jun 1955

Abstract : A biographical sketch of Yevgraf Stepanovich Fedorov (1853-1919), is presented with special stress on his work in the field of crystallography. Besides his teaching activities and research work he published more than 400 papers, dealing mostly with crystallography. Detailed explanation is given of the special way in which he carried on his researches in crystallography, the X-rays playing an important part in them showing that crystal structure always conforms to one of Fedorovich's 230 geometrical laws. Two Soviet references (1939-1947). Illustration.

Institution:

Submitted :

SHAFRANOVSKIY, I.I., deystvitel'nyy chlen.

Remarks on Professor O.M.Anshel's article "The nature of rounded
forms of diamonds." Zap.Vses.min.ob-va 84 no.1:123-126 '55.
(Diamonds) (MIRA 8:5)

SHAFRANOVSKIY, I. I.

Surface symmetry of growth pyramids of crystal grains. Zap. Vses.
min. ob-va 84 no. 3:349-353 '55. (MIRA 8:11)
(Crystallography)

BELIAKOV, M.F.; GRIGOR'YEV, D.P.; SHAFRANOVSKIY, I.I.

In memory of B.IA.Osadchev. Zap.Vses.min.ob-va 84 no.4:504-505
'55. (MIRA 9:6)

(Osadchev, Boris Iakovlevich, 1912-1954)

SHAFRANOVSKIY, I. I.

E-8

USSR/Solid State Physics - Morphology of Crystals.
Crystallization.

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11807

Author : Mikheyev, V.I., Shafranovskiy, I. I.

Inst : -

Title : Ribbed Forms of Crystals. Second Report. Simple Ribbed
Forms, of the Tetragonal Syngony.

Orig Pub : Kristallografiya. Vyp. 5. M., Metallurgizdat, 1956, 37-50

Abstract : Results are given of the derivation of 54 simple ribbed
forms (aggregates of equal ribs of crystals) for tetrago-
nal crystals with the aid of the symmetry elements. The
method and results of the derivation of 18 simple rib
forms of lower syngonies are given in the first report.
The tetragonal crystals are characterized by two-rib,
four-rib, and 16-rib forms. The derivation of the sim-
ple rib form and the determination of the symbols is
carried out with the aid of gnomo-stereographic

Card 1/2

USSR/Solid State Physics - Morphology of Crystals.
Crystallization.

E-8

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11807

projections. This method makes it possible to find also
the crystallographic versions of rib forms. Individual
rib forms on crystalline polyhedra become clearly pro-
nounced upon etching.

Card 2/2

Shafranovskiy, I. I.
USSR/Solid State Physics - Morphology of Crystals.
Crystallization.

E-8

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11805

Author : Shafranovskiy, I. I.

Inst : -

Title : Crystals in the Mineral-Forming Medium.

Orig Pub : Kristallografiya, Vyp. 5. M., Metallurgizdat, 1956, 59-68

Abstract : The form of a crystal is due not only to the external structure, but also the physical-chemical conditions of the medium that creates and feeds the crystal (temperature, pressure, degree of supersaturation of the solution, viscosity of the solution, etc.). The medium also exerts a substantial influence on the crystalline structure, for in various media the same structure behaves differently depending on the physical-chemical variations that take place in this medium. Thus, for example, the effective dimensions of atoms or ions, which comprise the structure, fluctuate

Card 1/2

E-8

USSR/Solid State Physics - Morphology of Crystals.
Crystallization.

Abs Jour : Ref Zhur - Khimiya, No 5, 1957, 11805

in accordance with the rise and fall of the temperature or pressure. This problem of the inter-relation between the surrounding medium and the crystalline structure itself should occupy a simpler position in modern mineralogical crystallography.

Card 2/2

E-7

USSR / Morphology of Crystals. Crystallization.

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9356

Author : Mokuyevskiy, V.A., Shafranovskiy, I.I., Gavrishuk, S.I.,
Gumilevskiy, A.A.

Title : Goniometric and Structural Investigation of the Crack Planes
on Beams of Artificial Ruby.

Orig Pub : Kristallografiya, Vyp. 5. M., Metallurgizdat, 1956, 195-202

Abstract : Report on the results of an investigation of artificial rubies with an optical goniometer. Based on these results, the authors show that unique determination of the crystallographic symbols of the splitting planes is done in an elementary manner and quite accurately by means of the goniometric method, without using the X-ray analysis method. Considering the atomic structure of corundum and the planar lattices of ions of the same kind alternating in it, the authors, in opposition to widely held views, conclude that

Card : 1/2

USSR / Morphology of Crystals. Crystallization.

E-7

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9356

Abstract : there exists in corundum a cleavage parallel to the faces of the hexagonal prisms $\{1010\}$ and $\{1120\}$ and of the rhombohedron $\{10\bar{1}1\}$.

Card : 2/2

SHAFRANOVSKIY, I. I.
USSR/ Physical Chemistry - Crystals

B-5

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11054

Author : Balashova M.N., Shafranovskiy I.I.

Title : Distribution of Minerals by Symmetry Forms

Orig Pub : Sbornik: Kristallografiya, No 5, Moscow, Metallurgizdat, 1956, 203-212

Abstract : A synopsis of the distribution of mineral crystals by symmetry forms

Card 1/1

Shafrenovskiy, I.I.

Category : USSR/Solid State Physics - General Problems

E-1

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6481

Author : Shafrenovskiy, I.I.

Title : History of the Study of the Shapes of Crystalline Polyhedra.

Orig Pub : Kristallografiya, vyp. 5, M., Metallurgizdat, 1956, 213-247

Abstract : No abstract

Card : 1/1

SHAFRANOVSKIY, I.I.

E.S. Fedorov and the Academy of Sciences. Trudy Inst. ist. est. i
tekh. 10:28-65 '56. (MLRA 9:12)
(Fedorov, Evgraf Stepanovich, 1853-1919)

MIKHYEV, V.I.; SHAFRANOVSKIY, I.I.

In memory of A.K.Boldyrev. Min.sbor. no.10:373-380 '56.
(MLRA 9:12)

1. Ordena Lenina i ordena Trudovogo Krasnogo Znameni Gornyy.
(Boldyrev, Anatolii Kapitonovich, 1883-1946)

Shafranovskiy, I. I.

USSR/ Miscellaneous

Card 1/1 Pub. 124 - 14/28

Authors : Raskin, N. M., Cand. of Hist. Sc., and Shafranovskiy, I. I., Dr. of Geol. Miner. Sc.

Title : Manuscript legacy of Ye. S. Fedorov

Periodical : Vest. AN SSSR 26/1, 71-77, Jan 1956

Abstract : Announcement is made by the archive bureau of the Academy of Sciences on the collection of manuscripts of the famous Russian crystallographer, petrographer mineralogist and geometrist Yevgraf Stepanovich Fedorov (1853-1919). Sixteen references: 15 USSR and 1 Germ. (1914-1955).

Institution :

Submitted :

SHAFRANOVSKI, I. I.

Anatoli Kapitonovich Bakhirev, his life and scientific work. I. I. Shafranovskii, V. I. Mikheyev, D. P. Gerasimov and N. N. Stulov. *Zapiski Vsesoyuz. Mineral. Obshchestva* 85, 83-93 (1956).—A discussion of Bakhirev's work in crystallography and mineralogy. J. Royter (Leningrad)

SHAMRANOVSKIY, I.I.

Some comments on crystallography in M.V.Lomonosov's works.
Zap.Vses.min.ob-va 85 no.1:106-108 '56. (MIRA 9:7)
(Crystallography--Early works to 1800)

SHAFRANOVSKIY, I.I.; MOKIYEVSKIY, V.A.

Growth conditions, geometry, and symmetry of skeletal
crystals. Zap.Vses.min.ob-va 85 no.2:171-186 '56. (MLRA 9:9)

(Crystals)

SHAFERANOVSKIY, I.I.

2

Symmetry groups in structural petrology. I. I. Shaferanovskii. *Zapiski Vsesoyuznogo Nauchnogo Otdeleniya* 85, 491-7 (1958). The plagiocline effect in rocks (granites, quartzites and sand) depends on the degree of regularity in orientation of the quartz grains of the rock, and on the size of these grains. This suggests that symmetries (for instance, in planes) may be useful in other petrologic problems; considerable work has been done in corroborating the ideas of Curie, Fedorov, Eliseev, Blubnikov (C.A. 27, 2350), Niggli, and Polya on the general subject of symmetry (not of crystals, where Haüy's law limits the possibilities).

but it will require actual exptl. work by petrologists to cast these ideas into a useful system in petrologic procedure.

V. H. Gottschalk

EE. WJ

3445 R 7000 V 2
DUBRAVA, T.S.; SHAFRANOVSKIY, I.I., professor, redaktor; LEVENBERG, N.V.,
redaktor izdatel'stva.

[Leningrad Mining Institute] Leningradskii gornyi institut. Lenin-
grad, Leningr.gornyi in-t im.G.V.Plekhanova, 1957. 84 p. (MIRA 10:11)
(Leningrad--Mining schools and education)

SHAFRANOVSKIY, I. I.

STENON, Nikolay [Steno, Nicolaus]; STRATANOVSKIY, G.A. [translator];
BELOUSOV, V.V., redaktor; SHAFRANOVSKIY, I.I., professor, redaktor;
PETROVSKIY, I.G., akademik, redaktor; ANDREYEV, N.N., akademik,
redaktor; BYKOV, K.M., akademik, redaktor; KAZANSKIY, B.A., akademik,
redaktor; SHCHERBAKOV, D.I., akademik, redaktor; YUDIN, P.P., akade-
mik, redaktor; DELANE, P.W., redaktor; KOSHTOYANTS, Kh.S., redaktor;
SAMARIN, A.M., redaktor; LEBEDEV, D.M., professor, redaktor; FIGUROV-
SKIY, N.A., professor, redaktor; KUZNETSOV, I.V., kandidat filosof-
skikh nauk, redaktor; ZAYCHIK, N.K., redaktor izdatel'stva; SMIRNOVA,
A.V., tekhnicheskii redaktor

[A solid body enclosed by nature within a solid. Translated from
the Latin] O tverdom, estestvenno sodержashchemsia v tverdom.
Perevod G.A.Stratanovskogo. Redaktsiya, stat'i i primechania
V.V.Belousova, i I.I.Shafranovskogo. [Leningrad] Izd-vo Akad.nauk
SSSR, 1957. 150 p. (MLRA 10:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Belousov, Delane,
Koshtoyants, Samarin)
(Geology)

ANDREYEV, V.N.; SHAFRANOVSKIY, I.I., prof., red.; GOL'DFELD, I.L., red.;
BORISOV, A.S., tekhn. red.

[Gem cutting] Ogranka samotsvetov. Pt. 1. [Gem stones]
Ogranochnoe syr'e. Moskva, Gos. izd-vo mestnoi promyshl. RSFSR.
1957. 158 p. (MIRA 11:12)
(Precious stones)

SHAEPANOVSKIY, I.I.; RASKIN, N.M.; KNYAZEV, G.A., redaktor; NIKOLAYEV, V.A.,
redaktor; IMSHENETSKIY, Yu.K., redaktor izdatel'stva; BLEYKH, E.Yu.,
tekhnicheskii redaktor.

[Manuscript materials of E.S. Fedorov in the archives of the Academy
of Sciences of the U.S.S.R.; critical description, texts] Rukopisnye
materialy E.S. Fedorova v arkhive Akademii nauk SSSR; nauchnoe opisanie,
teksty. Moskva, Izd-vo Akad. nauk, SSSR 1957. 211 p. (Akademia nauk
SSSR. Arkhiv. Trudy, no. 14) (MLRA 10:5)
(Fedorov, Evgraf Stepanovich, 1853-1919)
(Crystals)

Shafronovskiy, Ilarion Ilarionovich

Kristally mineralov. Ch. 1: Ploskogrannyye formy (Crystals of Minerals. Pt.1: Plane-face Forms) Leningrad, Izd-vo Leningrad. univ-ta, 1957. 220 p. 1,000 copies printed.

Sponsoring agency: Leningrad. Gornyy institut im. G.V. Plekhanova.

Editorial board: Tatarinov, P.N., Corr. Member, USSR Academy of Sciences (Chairman), Gorskiy, I.I., Member, USSR Academy of Sciences, Alferov, B.A., Prof., Andreyev, B.A., Prof., Grigor'yev, D.P., Prof., Tetyayev, M.M., Prof., Tolstikhin, N.I., Prof.; Scientific Ed.: Grigor'yev, D.P., Prof.; Ed.: Levenberg, N.V.; Tech. Ed.: Vodolagina, S.D.

PURPOSE: The book is designed for the use of specialists in geology, mineralogy and petrography in their study of mineral resources. It is also intended for the use of geology students who have had courses in mining at a university or other institutes of higher learning.

Card 1/4

Crystals of Minerals (cont)

COVERAGE: The author examines crystal forms in relation to their internal structure and to the external conditions which prevailed during their growth. He shows that by this method it is possible to determine the conditions under which they grew. The author also shows that by studying the form of crystals it is possible to determine the chemical and physical characteristics of mineral deposits. The book is a general compilation of existing literature in this field. There are 174 references, 127 of which are Soviet, 25 German, 13 English, 7 French, 2 Danish.

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Problems in the Present Day Study of the Form of the Natural Crystals

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263

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AVAILABLE: Library of Congress

Card 4/4

JS/mas
May 29, 1958

SHAFRONOVSKIY, I. I.

The National Committee for Crystallography, Leningrad-"The Evolution of Science on the Crystal Forms" (Section 16-2) a paper submitted at the General Assembly and International Congress of Crystallography, 19-19 Jul 57, Montreal, Canada.

C-3,800,189

SHAFRANOVSKIY, I. I.

The symmetry, antisymmetry and pseudosymmetry of induced surfaces. V. A. Mokhovskiy and I. I. Shafranovskiy (Mining Inst., Leningrad). Kristallografiya 2, 48-8 (1957).—Induced surfaces on variously oriented growth of crystals of Al K alums were studied, and their symmetries and antisymmetries were detd. Cases of pseudosymmetry with 6- and 8-fold pseudo-axes were found. The question was generalized to include other possible types. A. L. M.

Shafrovskiy, I.I.
MIKHAYEV, V.I. [deceased]; SHAFRANCYSKIY, I.I.

Forms of edges and striation on crystals. Kristallografiya 2
no.1:166-171 '57. (MLRA 10:7)

1. Leningradskiy gornyy institut.
(Crystals)

AUTHOR: Shafranovskiy, I.I. and Stulov, N.N. 70-2-1/24

TITLE: Viktor Ivanovich Mikheev - Obituary

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2,
No.2, pp. 203-206 (U.S.S.R.)

ABSTRACT: Professor Mikheev died suddenly in December, 1956 at the age of 45. He became interested at a very early age in crystallography. In March, 1936, he defended successfully his dissertation "Standard Debye rings of cast stone minerals". In the same year, he became "Dozent" of the Chair of Crystallography and lecturer on the course of general crystallography and X-ray investigation of crystals. Except for his military service during the war, he was associated throughout his life with the Mining Institute (Gornyy Institut). He published over 75 scientific papers and, in addition, he wrote 56 scientific reports on investigations of individual minerals and their groups carried out for various scientific and industrial establishments. For identifying the composition of mixtures and of minerals, the Debye Scherrer method was considered the most appropriate but, for this purpose, it was necessary to compile and arrange in their definite order the data calculated from minerals to be used as standards. This enormous task was materialised by publishing the "Roendgenometric" determination

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Viktor Ivanovich Mikheev - Obituary. (Cont.) 70-2-1/24

of minerals, the first part of which contains data for 142, the second part for 146 minerals; the third part with data for 905 minerals was put into print shortly before the death of Professor Mikheev. In addition to the colossal work involved in compiling the above mentioned book, Mikheev carried out roendgenometric investigations of individual minerals and their groups, and the results of this work were published in individual papers. It is largely due to his work that roendgenometric diagnosis of minerals is so successfully used in the Soviet Union. From 1950 onwards, Prof. Mikheev published numerous papers on homology problems and later on he published the monograph "Homology of Crystals" which also served as a doctor dissertation (in 1952). His work on homology was highly valued by the Soviet Ac.Sc. and he was awarded in 1950 the E.S. Fedorov prize for this work. Mikheev produced 218 types of homology and these allowed accurate classification and systemisation of crystals with low degrees of symmetry. The work on homology enabled solution of the practically important problem of identifying the Debye rings of low symmetry substances. In 1953, Mikheev was nominated Professor of the Crystallography Chair.

card 2/2

AVAILABLE: Library of Congress

AUTHOR: Shafranovskiy, I.I.

70-3-2/20

TITLE: Development of the science on crystal shapes. (Razvitiye ucheniya o formakh kristallov)

PERIODICAL: "Kristallografiya" (Crystallography), 1957,
Vol. 2, No.3, pp. 326 - 333 (U.S.S.R.)

ABSTRACT: A review is given of the work of Soviet authors relating to the evolution of the science of crystal shapes. The here mentioned Soviet work was prompted to a large extent by the work of A.V. Shubnikov, who described the probable stria on the cube faces with various symmetries. Shubnikov stated that whilst in crystallography five different cubes are distinguished, geometry knows only a single type of cube. Bokiy, G.B. (4) has derived 146 crystallographic variants for 47 simple shapes. A real manifestation of these variants is indicated by the character of the sculpture of the crystal faces. In earlier works, the author of this paper (5) deduced 1 403 structural variants of simple crystal shapes; the development of crystal faces represents a real manifestation of the structural variants in accordance with the principle of Donnay, J.D.H. and Harker, D. (6). In recent literature (7,8) the important role of raws and ribs is emphasised in studies of the external shape of the crystal as a function of

Card 1/3

Development of the science on crystal shapes. (Cont.)

the structure. In this respect, it is useful to deduce simple rib shapes similarly to deducing ordinary simple face shapes; a simple rib shape and a system of equal ribs on a crystal were deduced from a given rib by means of the symmetry elements by Mikheev, V.I. and Shafranovskiy, I.I. (11). In shapes with ribs clusters with two or three dimensions can be distinguished, namely "frames" and skeletons. So far, the deduction of ribbed shapes has been accomplished for systems of low degrees of symmetries (18 skeleton shapes). Knowledge of the shapes with ribs permits the classification of skeleton shapes, of dissolution forms and epitaxial excrescences. In analogy with the shapes with faces and with ribs it is logical to distinguish also shapes with peaks, of which there are 47. The skeletons and certain epitaxial excrescences can be classified amongst the shapes with peaks. The conceptions of Shubnikov relating to anti-symmetrical shapes (17) can be successfully applied in the study of induced surfaces for joined crystals (concretions), and this has been done in earlier work of the author (18). The homology of crystals represents a separate branch of crystallography developed by V.I. Mikheev, which is based mainly on the idea of fusion of faces which differ but, at the same time, belong to similar structures; such a system of faces produces "simple"

Card 2/3

70-3-2/20
(Cont.)

Development of the science on crystal shapes.

homologous shapes (20). Changed shapes of real crystals give valuable indications on the conditions of formation of such homologies. The symmetry of the centre imposes its influence on the development of the external faces as well as on the internal details of the crystals. The case which occurs most widely in nature can be characterised by a reduced number of symmetry characteristics. Deviation of the polyhedrons of real crystals from the ideal shapes gives an idea of the symmetry of the medium from which the crystals are formed; on the example of quartz crystals, Lemmleyn, G.G. (27) showed that these comply with the generally valid law, which is well-known from the colours. "Pseudomonohedrons", pseudodihedrons" and pseudo-pyramids" which occur most frequently in the case of natural, crystalline polyhedrons can serve as a safe indication of the symmetry of the medium feeding the forming crystals.

There are 8 figures and 30 references, of which 21 are Slavic.

ASSOCIATION: Leningrad Mining Institute (Leningradskiy Gornyy Institut)

SUBMITTED: February 22, 1957.

AVAILABLE: Library of Congress

Card 3/3

SHAFRANOVSKIY, I.I.; RASKIN, N.M. (Leningrad)

René-Just Haüy and his scientific connections with Russian
scientists. Vop.ist.est. i tekhn. no.5:165-168 '57. (MIRA 11:2)
(Haüy, René-Just, 1743-1822)

STULOV, N.N.; SHAFRANOVSKIY, I.I.; LAZARENKO, Ye.K.

Viktor Ivanovich Mikheev; obituary. Min.sbor. no.11:403-406
'57. (MIRA 13:2)

(Mikheev, Viktor Ivanovich, 1912-1956)

TATARSKIY, V.B.; FRANK-KAMENETSKIY, V.A.; BURAKOVA, T.N.; NARDOV, V.V.;
PETROV, T.G.; KONDRAT'YEVA, V.V.; KAMENTSEV, I.Ye.; CHERNYSHEVA,
V.F.; ALEKSEYEVA, N.P.; ARTSYBASHEVA, T.F.; BARANOVSKAYA, N.I.;
BUSSEN, I.V.; VERMETSKO, I.A.; GNEVUSHEV, M.A.; GOYKO, Ye.A.;
KOMKOV, A.I.; KOTOVICH, V.A.; LITVINSKAYA, G.P.; MIKHAYEVA, I.V.;
MOKIYEVSKIY, V.A.; PETROVA, L.V.; POPOV, G.M.; SAFRONOVA, G.P.;
SOBOL'VA, V.V.; STULOV, N.N.; TUGARINOVA, V.G.; SHAFRANOVSKIY, I.I.;
SHTERNBERG, A.A.; YANULOV, K.P.

O.M. Ansheles; obituary. Vest. LGU 12 no.18:152-154 '57. (MIRA 11:3)
(Ansheles, Osip Markovich, 1885-1957)

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